REMARKS

An excess claim fee payment letter is submitted herewith for two (2) excess independent claims.

Claims 1-3 and 5-36 are all the claims presently pending in the application. Claim 1 is amended to obviate the objection to this claim. Claim 1 is further amended to incorporate the subject matter of claim 4. Claim 4 is correspondingly canceled. Claims 5 and 9 are amended merely to rewrite these claims in independent form. Claims 25 and 34 are amended merely to provide proper dependency. Claims 14-18, 24-28, and 31-34 are amended to more clearly define the features of the invention and, particularly, to include subject matter analogous to the subject matter of original claim 4.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability.

Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

To summarize, claims 1, 2, 4-14 and 24-26 stand rejected upon informalities (e.g., 35 U.S.C. § 112, second paragraph), and claims 1-36 stand rejected on prior art grounds. Claims 1-36 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of Gennaro, et al. (U.S. Patent No. 6,317,834).

With respect to the prior art rejections, claims 1-4, 14-18, 24-28 and 31-34 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gennaro. Claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Padgett, et al. (U.S. Patent No. 6, 167,518). Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Adams, et al. (U.S. Patent No. 6,363,485). Claims 10-13 stand rejected under U.S.C. § 103(a) as unpatentable over Gennaro in view of Adams and further in view of Kharon, et al. (U.S. Patent No. 6,487,662). Claims 19, 20, 21, 29, 30, 35 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Kharon. Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Kharon and further in view of Adams.

These rejections are respectfully traversed in the following discussion.

I.   THE 35 U.S.C. §112, SECOND PARAGRAPH REJECTION

Claims 1, 2, 4-14 and 24-26 stand rejected under 35 U.S.C. §112, second paragraph. For at least the following reasons, Applicants respectfully disagree.

Claim 1 recites, *inter alia,* "selecting a function h, and for at least one of each said data set P to be collected, computing $h(P)$." Applicants submit that the claims particularly and distinctly claim the subject matter which Applicants regard as the invention and that a person of ordinary skill in the art clearly would understand the claimed step of selecting a function and computing $h(P)$. Additionally, the present application identifies several, non-limiting examples of functions (see, e.g., page 6, lines 10-18, of the specification). Accordingly, Applicants submit that claims 1, 2, 4-14 and 24-26 are definite and that one of ordinary skill in the art would clearly know the metes and bounds of the invention.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II.   CLAIM REJECTIONS BASED ON PRIOR ART GROUNDS

A.   Claims 1-4, 14-18, 24-28 and 31-34 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gennaro, et al. For at least the following reasons, Applicants traverse this rejection.

As a preliminary matter, it is noted that claim 1 is amended to incorporate all of the recitations of claim 4.

In the present Office Action, the Examiner alleges that Gennaro teaches the claimed invention. Applicants submit, however, that there are elements of the claimed invention which are neither taught nor suggested by Gennaro.

Gennaro discloses "[a] method of performing biometric authentication of a person's identity including a biometric template prior to storing it in a biometric database. The encryption algorithm encrypts the biometric template using a pass-phrase, known only to the individual, to generate the cryptographic key used to store and retrieve the biometric template. When an individual wishes to access a secured resource, he must be authenticated by providing an identifer which is used to retrieve the appropriate record. He must also provide the correct password to allow the system to decrypt the model." See Abstract of Gennaro.

However, Applicant submits that there are elements of the claimed invention that are not taught or suggested by Gennaro. Therefore, the Examiner is respectfully requested to withdraw this rejection.

For example, independent claim 1 recites a method of processing semiotic data, comprising:

> receiving semiotic data including a data set P;
> selecting a function h, and for at least one of each said data set P to be collected, computing $h(P)$;
> destroying said data set P;
> storing $h(P)$ in a database, and
> to determine whether P' is a predetermined subject, <u>comparing $h(P')$ to available $h(P)s$ to determine whether there is a match</u>,
> wherein said data set P cannot be extracted from h(P)
> (emphasis added).

In an exemplary embodiment of the present invention, when authenticating a piece of biometric data, an encrypted (or otherwise modified) version of the data is compared with the encrypted data in the database. This preserves privacy, as <u>the unencrypted biometric data is not used</u> by the computer in the authentication process but, instead, the encrypted data is used. In comparison, in Gennaro, the <u>encrypted data</u> in the database <u>is decrypted and compared</u> with the <u>unencrypted biometric data</u> to find a match. For example, in Gennaro, the biometric data to be verified (S' in block 32 of Figure 4b) is compared <u>directly</u> (block 42 in Figure 4b) with the <u>decrypted</u> biometric data (T in block 40 of Figure 4b).

Accordingly, Applicants respectfully submit that Gennaro neither discloses nor suggests at least "comparing $h(P')$ to available $h(P)s$ to determine whether there is a match", as recited in claim 1. Claims 2 and 3 also are patentable at least by virtue of their dependency from claim 1.

With respect to independent claim 15, independent claim 15 recites, *inter alia*, a method of processing biometric data comprising "comparing an <u>encrypted data set</u> of P' to the at least one <u>encrypted data set</u> stored in the database to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claim 16 also is patentable at least by virtue of its dependency from claim 15.

With respect to independent claim 17, independent claim 17 recites, *inter alia*, a method of extracting components of biometric data which are stable under measurement

errors comprising "comparing an <u>encrypted data set</u> of P' to the at least one <u>encrypted data set</u> stored in the database to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claim 18 also is patentable at least by virtue of its dependency from claim 17.

With respect to independent claim 24, independent claim 24 recites, *inter alia*, a system for processing semiotic data comprising "means for <u>comparing $h(P')$ to available</u> <u>$h(P)s$</u> to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claims 25 and 26 also are patentable at least by virtue of their dependency from claim 24

With respect to independent claim 27, independent claim 27 recites, *inter alia*, a system for verifying biometric data without storing unencrypted biometric data comprising "means for comparing an <u>encrypted data set</u> of P' to said at least one <u>encrypted data set</u> to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claim 28 also is patentable at least by virtue of its dependency from claim 27.

With respect to independent claim 31, independent claim 31 recites, *inter alia*, "to determine whether a data set P' is a predetermined subject, means for <u>comparing $h(P')$ to</u> available <u>$h(P)s$</u> to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claim 32 also is patentable at least by virtue of its dependency from claim 31.

With respect to independent claim 33, independent claim 33 recites, *inter alia*, "means for comparing an <u>encrypted data set</u> of P' to said at least one <u>encrypted data set</u> to determine whether there is a match." Gennaro neither discloses nor suggests at least this feature. Claim 34 also is patentable at least by virtue of its dependency from claim 33.

B.   Claims 5-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Padgett, et al. Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Adams, et al. Claims 10-13 stand rejected under U.S.C. § 103(a) as unpatentable over Gennaro in view of Adams and further in view of Kharon, et al. Claims 19, 20, 21, 29, 30, 35 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Kharon. Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gennaro in view of Kharon and further

in view of Adams.

The Gennaro reference was filed on January 29, 1999 (which is prior to Applicants'
filing date of December 10, 1999) and issued as a U.S. Patent on November 13, 2001 (which
is after Applicant's filing date of December 10, 1999), and therefore, is available as prior art
only under 35 U.S.C. § 102(e). Also, the Gennaro reference was commonly assigned or
subject to an obligation of assignment to International Business Machines Corporation at the
time the invention was made. Thus, under 35 U.S.C. § 103(c), the Gennaro reference is not
available as § 103 prior art.

Accordingly, Applicants respectfully request the Examiner to withdraw these
rejections and permit claims 5-13, 19-23, 29, 30, 35, and 36 to pass to allowance.

III.   OBVIOUS-TYPE DOUBLE PATENTING

The Office Action rejects claims 1-36 under the judicially created doctrine of
obviousness-type double patenting as being unpatentable over claims 1-22 of Gennaro.

As mentioned above, there are elements of the claimed invention that are not taught or
suggested by claims 1-22 of Gennaro. As the Examiner well-knows, for an obvious-type
double patenting rejection, only the claims can be relied upon for rendering obvious the
present application's claims. The Examiner is prohibited from imaginatively reading into the
claims limitations found only in the disclosure of Gennaro. Therefore, the Examiner is
respectfully requested to withdraw this rejection.

For example, independent claim 1 recites, *inter alia*, "comparing $h(P')$ to available
$h(P)s$ to determine whether there is a match." This preserves privacy, as the unencrypted
biometric data (e.g., $h(P')$ and $h(P)$) is not used by the computer in the authentication process
but, instead, the encrypted data is used.

None of the claims of Gennaro teaches or suggests comparing $h(P')$ to available $h(P)s$
to determine whether there is a match, as claimed.

As an aside, it is noted that the Office Action mentions claim 5 as an example of
obvious type differences. However, it is also noted that the Office Action acknowledges that
Gennaro does not disclose or suggest all of the limitations of claim 5. Therefore, it is
respectfully submitted that claim 5 also is patentably distinct over the claims of Gennaro.

Accordingly, all of the claims of the present application (claims 1-3 and 5-36) are

patentably distinct from all of the claims of the Gennaro reference and this rejection should be withdrawn.

IV.   FORMAL MATTERS AND CONCLUSION

Applicants thank the Examiner for indicating that the drawings filed on February 14, 2000 are accepted.

The Office Action objects to claims 2, 3, 25, and 34. Claim 1 is amended to obviate the objection to claims 2 and 3. Claims 25 and 34 are amended to provide proper dependency. These amendments should obviate the objections to the claims. The Examiner is respectfully requested to withdraw the objections.

In view of the foregoing, Applicant submits that claims 1-3 and 5-36, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a _telephonic or personal interview_.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,

Date: _1/2/04_

John J. Dresch, Esq.
Registration No. 46,672

Sean M. McGinn, Esq.
Registration No. 34,386

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254